

Louisville Metro Air Pollution Control District
850 Barret Ave., Louisville, Kentucky 40204
xx September 2014

Construction Statement of Basis

Company: Rohm and Haas – Louisville Plant

Plant Location: 4300 Camp Ground Road, Louisville, KY 40216

Date Application Received: 2/13/2007	Application Number: 10565
2/23/2012, 8/18/2014	34491, 66583
9/29/2014	67280

Public Comment Date: 5/12/2014, xx/xx/2014

Proposed Permit Date: 5/12/2014, xx/xx/2014

District Engineer: Yiqiu Lin

Permit No(s): 523-07-C (R2)

Plant ID: 189

SIC Code: 2821

NAICS: 325211

AFS: 00189

Introduction:

This permit will be issued pursuant to District Regulation 2.03, *Authorization to Construct or Operate; Demolition/Renovation Notices and Permit Requirements*. Its purpose is to provide methods of determining continued compliance with all applicable requirements.

Jefferson County is classified as an attainment area for lead (Pb), nitrogen dioxide (NO₂), carbon monoxide (CO), 1 hr and 8 hr ozone (O₃), and particulate matter less than 10 microns (PM₁₀); and is a non-attainment area for particulate matter less than 2.5 microns (PM_{2.5}) and partial non-attainment for sulfur dioxide (SO₂).

Application Type/Permit Activity:

☐ Initial Issuance
☒ Permit Revision
 ☐ Administrative
 ☐ Minor
 ☒ Significant
☐ Permit Renewal
☒ Construction

Compliance Summary:

<input checked="" type="checkbox"/> Compliance certification signed	<input type="checkbox"/> Compliance schedule included
<input type="checkbox"/> Source is out of compliance	<input checked="" type="checkbox"/> Source is operating in compliance

I. Source Information

1. **Product/Process Description:** The source produces various coatings and resins.
2. **Project Description:** This permit is being revised at the request of the source to remove the requirement that the KB Distillation Columns need to be controlled at all time. The company had demonstrated that the small amount of uncontrolled emissions would still meet the VOC emission standard.
3. **Site Determination:** There are no other facilities that are contiguous or adjacent and under common control.
4. **Emission Unit Summary:**

Construction No.	Equipment Description
523-07-C (R2)	KB Distillation Columns (E-KB-03-810) and Condensers (E-KB-03-760 and E-KB-03-761) controlled by either the Regenerative Thermal Oxidizer (C-KAC-14-723) or the Alternate Thermal Oxidizer (C-KAC-14-726). One (1) barge unloading/line clearing operation (E-KB-BargeLine) used for unloading MMA from barge to an existing tank for KB Distillation Columns (E-KB-03-810).

5. Permit Revisions

Revision No.	Date of Issuance	Public Notice Date	Type	Emission Unit	Description
Initial	11/30/2008	N/A	Initial	Entire Permit	Initial Permit Issuance
R1	07/11/2014	05/12/2014	Revision	Entire Permit	Revision to designate condenser is process recovery equipment
R2	x/xx/2014	x/xx/2014	Revision	Entire Permit	Revision for control devices operation

6. **Fugitive Sources:** There are no fugitive emissions for this project.

7. Plantwide Emission Summary:

Pollutant	District Calculated Actual Emissions 2013 Data (tpy)	Major Source Status (based on PTE)
CO	17.51	Yes
NO _x	189.14	Yes
SO ₂	38.44	Yes
PM/PM ₁₀	6.57/4.16	Yes

Pollutant	District Calculated Actual Emissions 2013 Data (tpy)	Major Source Status (based on PTE)
VOC	15.85	Yes
Methyl methacrylate	5.57	Yes*
Styrene	0.19	Yes*
Toluene	2.81	Yes*
Total HAPs	10.31	Yes*

*Note: The source accepted limits on single and total HAP emissions in order to be a synthetic minor source on October 31, 2005; before this date the source was major.

8. Applicable Requirements:

☐ PSD ☐ Part 60 ☒ SIP ☐ Part 63
☐ NSR ☐ Part 61 ☒ District-Origin ☒ Other

9. MACT Requirements:

N/A

10. Referenced Federal Regulations in Permit:

40 CFR 64

II. Regulatory Analysis

- Acid Rain Requirements:** The source is not subject to the Acid Rain Program.
- Stratospheric Ozone Protection Requirements:** Title VI of the CAAA regulates ozone depleting substances and requires a phase-out of their use. This rule applies to any facility that manufactures, sells, distributes, or otherwise uses any of the listed chemicals. This source does not manufacture, sell, or distribute any of the listed chemicals. The source's use of listed chemicals is that in fire extinguishers, chillers, air conditioners and other HVAC equipment.
- Prevention of Accidental Releases 112(r):** The source does not manufacture, process, use, store, or otherwise handle one or more of the regulated substances listed in 40 CFR Part 68, Subpart F, and District Regulation 5.15, *Chemical Accident Prevention Provisions*, in a quantity in excess of the corresponding specified threshold amount. If the source becomes subject to 40 CFR 68 and Regulation 5.15, the source shall comply with the Risk Management Program and Regulation 5.15 and submit a Risk Management Plan to:

RMP Reporting Center
 P.O. Box 3346
 Merrifield, VA 22116-3346

4. Basis of Regulation Applicability

a. Applicable Regulations: Construction Permit 523-07-C (R2)

Regulation	Title	Type	Basis of Applicability
1.05	Compliance with Emission Standards and Maintenance Requirements	SIP	Establishes daily record keeping requirements for sources emitting 100 tons per year or more of VOC and all Control Technique Guidance (CTG) sources to demonstrate compliance with applicable portions of Regulation 6 and 7.
2.03	Authorization to Construct or Operate; Demolition/Renovation Notices and Permit Requirements	SIP	Establishes requirements for Permits to Construct and Operate
2.04	Construction or Modification or Major Sources In or Impacting Upon Non-Attainment Areas (Emission Offset Requirements)	SIP	Establishes requirements for the prevention of deterioration of air quality in regions of the country that currently do not meet the NAAQS
2.16	Title V Operating Permits	SIP	Title V source
5.00	Standards for Toxic Air Contaminants and Hazardous Air Pollutants	Local	Establishes definitions of terms used in the Strategic Toxic Air Reduction Program.
5.01	General Provisions	SIP	Establishes general provisions for process equipment from which a toxic air contaminant is or may be emitted
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	Local	Establishes the methodology for determining the benchmark ambient concentration of a toxic air contaminant.
5.21	Environmental Acceptability for Toxic Air Contaminants	Local	Regulation 5.21 establishes the criteria for determining the environmental acceptability of emissions of toxic air contaminants
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	Local	Establishes the procedures for determining the maximum ambient concentration of a toxic air contaminant.
5.23	Categories of Toxic Air Contaminants	Local	Establishes categories of toxic air contaminants.
6.24	Standard of Performance for Existing Sources Using Organic Materials	SIP	Establishes VOC standards for affected facilities constructed before June 13, 1979.
7.25	Standard of Performance for	SIP	Establishes VOC standards for the control of emissions for affected facilities

Regulation	Title	Type	Basis of Applicability
	New Sources Using Volatile Organic Compounds		commenced after June 13, 1979.
40 CFR 64	Compliance Assurance Monitoring for Major Stationary Sources	Federal	Applies to each pollutant specific emission unit that is subject to an emission limitation or standard; uses a control device to achieve compliance; and has pre-control emissions that exceed or are equivalent to the major source threshold. CAM applies because the KB Distillation Columns are subject to emission limitations, use control devices to achieve compliance and have pre-control emissions that exceed the major source threshold.

b. Equipment

Emission Point	Description	Applicable Regulation(s)
E-KB-Columns+-03-810	KB Distillation Columns (and process condenser 03-761)	1.05, 2.03, 2.04, 2.16, 5.00, 5.01, 5.20, 5.21, 5.22, 5.23, 6.24, 40 CFR 64
E-KB-BargeLine	Barge unloading/line clearing operation (E-KB-BargeLine) used for unloading MMA from barge to an existing tank for KB Distillation Columns.	7.25

i. Standards/Operating Limits

1) VOC

- (a) Regulation 6.24 limits the pound per hour and pound per day emissions of Class II and Class III solvents for Emission Point 03-810, unless the emissions are reduced by at least 85%. If the source is venting the emissions to the Regenerative Thermal Oxidizer (C-KAC-14-723), the RTO is assumed to attain at least an average thermal efficiency of 95% VOC destruction efficiency and to meet the reduction requirements of 85%. The most recent stack test was performed on the RTO on October 26, 2006 and demonstrated a destruction efficiency of 98.2% at 1500°F.
- (b) The controlled potential VOC emissions for the project are below the significant level of 40 tpy for PSD/Non-attainment NSR. Therefore, the permit contains a PSD/Non-attainment NSR avoidance

limit that they will demonstrate compliance with as described in the permit

- (c) Emission point 03-810 is allowed to bypass both RTO and ATO no more than 72 minutes each calendar day. This permit has been revised at the request of the source to remove the condenser (formerly C-KB-03-760, now identified as E-KB-03-760) as control devices for the KB distillation columns (E-KB-03-810) and be designated as process recovery equipment. Emission Point 03-810 is equipped with a process condenser (E-KB-03-761) that operates whenever this emission point is in operation. The calendar day starts at 00:00:00 AM and running to 23:59:59 PM.
- (d) The barge unloading/line clearing (E-KB-BargeLine) is determined to be an insignificant activity per PTE. Therefore it is de minimis for STAR Program. However, this unit is subject to the 5 tons per 12-month plant-wide VOC limit per Regulation 7.25. A BACT determination is required to be performed for any future construction/modification subject to Regulation 7.25 for any emissions outside of the 5 tpy limit.

2) **TAC**

Per Regulations 5.00 and 5.21, TAC emissions must not exceed environmentally acceptable levels.

ii. **Monitoring and Record Keeping**

1) **VOC**

Regulation 2.03 requires sufficient monitoring and record keeping to determine compliance with the standards.

2) **TAC**

Regulation 2.03 requires sufficient monitoring and record keeping to determine compliance with the standards.

iii. **Reporting**

Regulation 2.03 requires sufficient reporting to determine compliance with the standards.

III. Other Requirements

1. **Temporary Sources:** The source did not request to operate any temporary facilities.
2. **Short Term Activities:** The source did not report any short term activities.
3. **Emissions Trading:** N/A
4. **Operational Flexibility:** The source did not request any operational flexibility for the emission point.
5. **Compliance History:**

Incident Date(s)	Regulation(s) Violated	Result
9/9/92	1.07, 1.09, 1.13	Settled
11/2/92	6.24	Board Order
5/10/93	1.13	Settled
6/30/93	2.03	Settled
9/26/93	1.13	Settled
5/8/98	1.09	Settled
5/12/99	7.02	Settled
9/26/00	6.24	Board Order
12/15/06	1.13	Settled
7/2/08	1.07, 2.16	Board Order
5/29/08	1.07, 2.16	Board Order
4/11/07	1.07, 2.16	Settled
6/13/10	2.16	Board Order
8/30/12	1.07, 2.16	Board Order

6. Emission calculation methodology:

Fugitive losses due to equipment leaks are monitored plantwide according to Permit 157-97-TV (R1) (Title V), Appendix A. Most components are monitored quarterly (units on a rotating 3-month cycle) using EPA Method 21 of 40 CFR, Appendix A, or at the frequency specified in Appendix A, B, or D. The monitoring results are uploaded to a LeakDAS database, which is then used to calculate emissions using the SOCMi equation set, rectangular calculation method,

and no peg value. Fugitive emissions are incorporated in unit totals.

7. **Insignificant Activities:** There are no insignificant activities contained in this construction permit.
8. **Permit Fee:** The permit fees are based on the significant permit revision fee for a Title V source (\$2542.40). The total permit fees are \$2542.40.